AMENDMENTS TO THE DRAWINGS:

The attached 7 sheets of formal patent drawings are provided to replace the originally filed 5 sheets of informal patent drawings.

Attachment: Replacement Sheets 7 (formal patent drawings)

REMARKS:

Please note the new Attorney Docket No. of 863.0040.U1(US).

All references made below with respect to the specification of the instant application are made with regards to U.S. Patent Application Publication No. 2004/0264372, the Application Publication corresponding to the instant application.

Claims 1-4, 10-15 and 21-30 are amended for purposes of clarity. These amendments are not made in response to the rejection of these claims. Furthermore, at least some of these amendments may be considered broadening in nature. The full range of equivalents should remain intact.

The Examiner rejected claims 1, 2, 10-13, 21 and 22 under 35 U.S.C. §102(e) as being anticipated by Cain (U.S. Patent No. 6,961,310). The Examiner rejected claims 3 and 14 under 35 U.S.C. §103(a) as being unpatentable over Cain in view of Ricciulli (U.S. Patent Application Publication No. 2004/0022194). The Examiner rejected claims 4, 5, 15, 16, 23, 24, 29 and 30 under 35 U.S.C. §103(a) as being unpatentable over Cain in view of MeLampy et al. (U.S. Patent Application Publication No. 2003/0016627). The Examiner rejected claims 6-9, 17-20 and 25-28 under 35 U.S.C. §103(a) as being unpatentable over Cain in view of MeLampy et al. and further in view of Cain et al. (U.S. Patent No. 7,068,605; referred to herein as "Windham et al."). These rejections are respectfully disagreed with and are traversed below.

It is briefly noted that the Ricciulli reference (U.S. Patent Application No. 2004/0022194) does not appear on the Notice of References Cited attached to the outstanding Office Action. It is respectfully requested that the Examiner ensure that this reference is made of record for this application, for example, by including it in a subsequent Notice of References Cited.

It is noted that Windham et al. was filed on September 9, 2003 and does not claim priority to an earlier-filed application. The instant application was filed on June 27, 2003. Since the filing date

of the instant application predates the filing date of Windham et al. and, unless shown otherwise, a filing date is constructively considered as the date of invention, Windham et al. does not constitute prior art for the instant application. Thus, claims of the instant application cannot be rejected based on the disclosure of Windham et al. In view of this, the rejection of claims 6-9, 17-20 and 25-28 under 35 U.S.C. §103(a) as being unpatentable over Cain in view of MeLampy et al. and further in view of Windham et al. is clearly improper. It is respectfully requested that the Examiner reconsider and remove the rejection of claims 6-9, 17-20 and 25-28.

Amended claim 1 recites:

> A method for operating a wireless network comprised of a source node, a destination node and at least one intermediate node disposed therebetween, comprising:
>
> at the source node, initiating a route search by sending a Route Request message;
>
> at the destination node, or another node having knowledge of the destination node, replying to the Route Request message sent by the source node with a Route Reply message when there is a valid route, **where the Route Reply message comprises route delay information relative to the responding node**; and
>
> selecting a route with a smallest route delay to send a packet from the source node to the destination node. (emphasis added)

With respect to the emphasized portion of claim 1, on pp. 2-3 of the Office Action, the Examiner alleged that Cain discloses this element, stating:

> the destination node generating a route reply packet to the source node with link delay metric (*at the destination node, or another node having knowledge of the destination node, replying to the originating node with a Route Reply message when there is a valid route, where route delay information relative to the responding node is contained within the Route Reply message*, column 5, lines 34-37)

At col. 5, lines 34-44, Cain states:

> The destination node 4, upon receiving the route request RREQ, generates a reply RREP to the source node 1 for each discovered route (block 110). In other words, the destination node 4 may have received the forwarded route request RREQ from any of various possible routes including, for example, 1-2-4 or 1-3-5-4. A reply RREP is generated in each case. At block 112, the source node 1 ranks the discovered routes according to one or more link metrics. The link metric is preferably a measurement of link delay, link capacity, link available capacity, and/or link reliability as will be discussed below.

There is no disclosure or suggestion by Cain that the reply (RREP) includes the link metric. There is no disclosure or suggestion by Cain that the link metric be calculated in any manner other than at the source node and based on one or more of the replies (RREPs) received from the various possible routes. Specifically, there is no disclosure or suggestion by Cain that "the Route Reply message comprises route delay information relative to the responding node," as recited in claim 1, for example.

On p. 3 of the Office Action, the Examiner asserted that col. 7, lines 65-67 of Cain discloses: "selecting a route with a smallest route delay to send a packet from the [source] node to the destination node," as recited in claim 1, for example.

At col. 7, line 55-col. 8, line 13, Cain states:

> The invention as specifically applied to AODV will be described. AODV collects only a single route as currently defined with path hop count as the metric. Thus, AODV should be modified to collect multiple routes with the appropriate metrics. Care should be taken with AODV to insure loop-free routes since it builds next hop routing tables. For example, the following conservative approach will work: Modify AODV route table to reflect the use of multiple routes, the ranking of the top n routes, and the usage factors for top n routes based upon the appropriate path metrics; **select one of the top n routes the "best route"--to maintain loop-freedom it will be selected in AODV as the freshest minimum hop count route (the lesser routes included in the top n can have up to 1 greater hop count)**; Intermediate nodes return RREPs designating only their choice for "best route" while the destination can return multiple RREPs for paths

> through different neighbors; Selection of one of n possible paths occurs only at the source node--each intermediate forwarding node always forwards a packet along its "best route". When a node finds a route that is fresher than another route already in use it does not have to discard the other route unless it fails or hop count is too high. Higher reliability traffic class which sends duplicate traffic over multiple routes for higher reliability may be implemented. Route failure results in generation of RERRs and triggering the failure recovery process as indicted above.

According to this portion of Cain, one of the top n routes is selected as the best route. The best route "will be selected in AODV as the freshest minimum hop count route." It is submitted that the route having the minimum hop count does not necessarily correspond to the route having the smallest delay. This is noted in the instant application at paragraph [0015]. There is no disclosure or suggestion by Cain of "selecting a route with a smallest route delay," as previously recited in claim 1, for example.

The features recited in claim 1 are not disclosed or suggested in the cited art. Cain does not anticipate claim 1. Therefore, claim 1 is patentable and should be allowed.

Though dependent claims 2-11 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 1. However, to expedite prosecution at this time, no further comment will be made except as noted below.

Amended independent claim 12 recites similar subject matter, including: "A wireless network comprised of a source node, a destination node and at least one intermediate node disposed therebetween... where in the destination node, or another node having knowledge of said destination node, a data processor replies to said originating node with a Route Reply message when there is a valid route, where said Route Reply message comprises route delay information relative to said responding node; and where said data processor in said source node selects a route with a smallest route delay to send a packet to said destination node." For the reasons stated above with respect to claim 1, claim 12 is similarly patentable and should be allowed.

Though dependent claims 13-22 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 12. However, to expedite prosecution at this time, no further comment will be made except as noted below.

With regards to claims 4, 15 and 23, on pp. 4-5 of the Office Action, the Examiner alleged:

> MeLampy discloses measuring route delay between a media router and an endpoint by using timestamp of the sent and received packet (paragraphs [0044]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Cain implement the teaching of MeLampy in measuring route delay using timestamps so that the measured route delay would be used in determining the selection of routing path.

In the Abstract, MeLampy et al. state in part:

> A system and method for determining flow quality statistics for real-time transport protocol (RTP) data flows is disclosed... **Latency is determined by the first endpoint transmitting a test data packet to the second endpoint**; the second endpoint looping the test data packet back to the first endpoint; comparing when the test data packet was received by the first endpoint to when the test data packet was sent to the second endpoint, to determine a round trip time; and, dividing the round trip time in two, resulting in the latency. (emphasis added)

In paragraph [0044], MeLampy et al. further state:

> [0044] **In order to measure latency for a data flow, the multi-media router 118 communicates with another endpoint on the data flow**. Presumably, the other endpoint is another multi-media router, although it need not be. Preferably, the subject of this communication is a test packet that the endpoint loops back to the multi-media router 118 attempting to determine RTP data flow latency. The multi-media router 118 receiving the looped packet compares when the packet was received to when the packet was sent, thereby determining a round trip time. The round trip time is then cut in half to approximate the one-way time, which is the latency. (emphasis added)

Thus, MeLampy et al. are concerned with determining the end-to-end latency as between a first endpoint and a second endpoint.

The latency determination described by MeLampy et al. is very similar to a prior art approach observed by the Applicant in paragraph [0027] of the instant application:

> [0027] An end-to-end traffic approach is known in the art. In this approach, an end node periodically broadcasts a probe packet to measure the delay. If the delay is larger than the negotiated threshold (QoS violation), the re-route process is triggered, and a RREQ packet is generated to find a new path.

In contrast, amended claim 4 of the instant application recites:

> A method as in claim 1, where an intermediate node is configured to determine a round trip path delay between itself and the destination node by:
>
> receiving a probe message sent by the source node to the destination node;
>
> recording a time of arrival of the probe message;
>
> forwarding the probe message towards the destination node;
>
> receiving a response to the probe message from the destination node;
>
> recording a time of arrival of the response to the probe message; and
>
> calculating the round trip path delay between itself and the destination node by subtracting the recorded time of arrival of the probe message from the recorded time of arrival of the response to the probe message.

Thus, in claim 4, an intermediate node is determining "a round trip path delay between itself and the destination node." Note that, as clarified in amended claim 1, the intermediate node is disposed between the source node and the destination node.

As noted above, MeLampy et al. are concerned with determining the end-to-end latency as between a first **endpoint** and a second **endpoint**. MeLampy et al. do not disclose or suggest determining "a round trip path delay between [an intermediate node] and a destination node," as recited in claim 4, for example. In fact, MeLampy et al. only mention any intermediate nodes in passing, observing that they may be present. See, e.g., para. [0035] of MeLampy et al. with respect to the media router 137 in FIG. 2.

It is also noted that Cain does not disclose or suggest determining "a round trip path delay between [an intermediate node] and a destination node," as recited in claim 4, for example, nor does the Examiner assert otherwise. See p. 4 of the Office Action.

The features recited in claim 4 are not disclosed or suggested in the cited art. Cain in view of MeLampy et al. certainly does not render claim 4 obvious. Therefore, claim 4 is patentable and should be allowed.

It is briefly noted that claims 5-9 depend, directly or indirectly, from dependent claim 4. As such, though dependent claims 5-9 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 4.

Claim 15 recites subject matter similar to that of claim 4, including "A wireless network as in claim 12, where a data processor of an intermediate node is configured to determine a round trip path delay between said intermediate node and said destination node." For the same reasons stated above with respect to claim 4, claim 15 is not rendered obvious by Cain in view of MeLampy et al. Therefore, claim 15 is patentable and should be allowed.

It is briefly noted that claims 16-20 depend, directly or indirectly, from dependent claim 15. Though dependent claims 16-20 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 15.

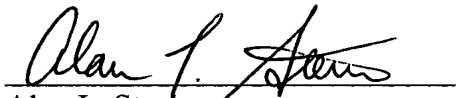
Independent claim 23 recites subject matter similar to that of claim 4, including "An electronic device comprising: ...a data processor... operable... to calculate a path delay between the electronic device and said first node using said recorded times of arrival" (claim 23). It is also noted that claim 23 additionally recites: "wherein said transmitter is further operable to transmit said calculated path delay to at least one of said first end node and said second end node." There is no disclosure by Cain or MeLampy et al. of an electronic device that transmits "said calculated path delay to at least one of said first end node and said second end node," as recited in claim 23,

for example. For the same reasons stated above with respect to claim 4, as well as the fact that neither reference discloses transmitting a "calculated path delay to at least one of said first end node and said second end node," claim 23 is not rendered obvious by Cain in view of MeLampy et al. Therefore, claim 23 is patentable and should be allowed.

Though dependent claims 24-30 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 23.

The Examiner is respectfully requested to reconsider and remove the rejections of claims 1-30, and to allow all of the pending claims as now presented for examination. For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Should any unresolved issue remain, the Examiner is invited to call Applicant's agent at the telephone number indicated below.

Respectfully submitted:



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CERTIFICATE OF MAILING

I hereby certify that this Response to the Office Action mailed on March 21, 2007 is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Ann Okerntowicz — 8-20-07

Name of Person Making Deposit — Date